BOARD OF CERTIFICATION IN PROFESSIONAL ERGONOMICS

THE PROFESSIONAL ERGONOMIST

The Newsletter of the BCPE

Board of Certification in Professional Ergonomics • P.O. Box 2811 • Bellingham • Washington • USA • 98227-2811 •
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THE LIFE CYCLE OF A (PROFESSIONAL) ERGONOMIST

by J. Brian Peacock, Ph.D., P.E., CPE

Some men (and women) are born great, some achieve greatness and others have greatness thrust upon them.

The same can be said of ergonomists.

An ergonomist at the peak of his/her career understands the larger context of ergonomics, including basic science, the health, engineering and psychology professions, the problem of populations and probability, the tools and techniques of physical, cognitive, environmental and macro ergonomics, and the application opportunities. The ergonomist must be confident in his / her own knowledge and be sufficiently humble and gregarious to seek and use advice from a wide variety of technical and domain sources.

How does an ergonomist rise to this level of self actualization?

Some ergonomists start from an early age to be interested in the relationship between people and their environments and will pursue a career, under whatever name, that is aimed at designing or modifying the environment to match either individual or population requirements. In this context, the inventors of the lever, wheel, chair and table, automobile, sweater, printing press, vaccine, umbrella, clock, light bulb, telephone, planner, tax laws, team, computer and internet were born ergonomists. They solved general human problems of protection or enhancement of human capabilities.

But many would say that this view of the ergonomist is somewhat imperialistic. It confuses ergonomics with invention, engineering, law, management and medicine. Ergonomists, on the other hand, claim that they wish to be "in" at the design stage. In reality, there are differences between ergonomists, engineers and inventors, although a handful of people can claim to be competent in all three areas. In general, the inventor sees the opportunity and communicates the idea to the engineer. The engineer, in turn, develops the product, with due reference to many constraints of cost, materials, technology, volume, environmental protection, safety and ergonomics. The ergonomist works iteratively with the engineer, in the context of analysis, design and evaluation, using a plethora of ergonomics tools and guidelines.

Over time, the ergonomist develops a mutual respect with his / her professional colleagues and sufficient knowledge of a particular domain. The ergonomist has achieved greatness!

But how does an ergonomist rise to this level?

Some have ergonomics thrust upon them. They study all sorts of things in college, go to work and end up being more interested in human interfaces than the underlying technology.

But is this sufficient? No!

To be a competent and confident ergonomist, one must:

a. Acquire basic knowledge of biological, psychological and engineering science;

b. Have a real interest in the human implications of design;

c. Be very cognizant of, and competent in, probability and statistics;

d. Acquire a thorough knowledge of the spectrum of ergonomics tools and techniques;

e. Acquire sufficient knowledge of technology, engineering, design and business processes;

f. Acquire sufficient domain knowledge to be able to have sensible conversations with colleagues;

g. Be careful regarding the offering of gratuitous or unfounded advice;

h. Be confident in offering precise, accurate, reliable and valid advice;

i. Be enthusiastic about his or her profession;

j. Be qualified and certified by a competent organization;

This then is the process of achieving greatness as an ergonomist!

To be more specific regarding the life cycle:

In reality, competent ergonomists spring from many technical areas, notably engineering, health sciences or psychology. However, they must achieve sufficient formal education in the other subject and support areas (such as statistics). This is most usually achieved by taking a master's course. Ergonomists will naturally favor their foundation area, but, if they do not study in sufficient breadth they will inevitably miss the point. For example, psychologists may forget that people have bodies, which if they are hurting, will inevitably lead to degraded cognitive performance or behavioral aberrations. Similarly, health scientists, may forget that people have brains as well as bodies and if both are not exercised or stimulated, both will decay. Engineers must realize that people are not just like themselves, they come in all shapes and sizes, and they vary on innumerable dimensions. Finally, psychologists, health scientists and engineers must realize that people have souls; bodies and brains can be satisfied with technology, but when all is said and done, the individual is a person with very complex experiences and motivations. The ergonomist must be able to take a macro view.

So it is clear that the ergonomist must embark on a process of life long learning. There is no way that all the above knowledge and skills can be achieved during formal education.

There are two ways of assuring a basic competence of an individual

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THE LIFESTYLE OF A (PROFESSIONAL) ERGONOMIST

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ergonomist. First, graduation from an accredited program in ergonomics, will assure an appropriate foundation. Following this, a period of a few years practice will hone the ergonomists skills and assure the acquisition of domain knowledge and the limitations of the tools and techniques. During this period of apprenticeship and/or increasing responsibility, the ergonomist will rapidly learn his or her shortcomings. Undergraduate and graduate school is not like, and should not be like, the outside world. School is where one should learn the science and techniques, with a little bit of project or case study experience. Application and domain knowledge can only be acquired in the outside world. That is how doctors and lawyers learn, why not ergonomists?

After a period of experience, the practicing ergonomist should have sufficient projects under his/her belt to be ready for a professional examination. It behooves the practitioner to obtain broad application and technique experience wherever possible. Only then will it be possible to reliably transfer training to new domains. The BCPE professional examination contains a review of basic knowledge, techniques and typical application scenarios. This examination is complemented by documented evidence of formal education and experience, the former by presentation of transcripts or equivalent and the latter by the presentation of a portfolio of projects worked on. Many practitioners complain that they are "paid to do" and not "to write reports". A competent practitioner will generally have some documentary evidence of their activities or, if this is proprietary, they should generally be able to paraphrase their experience. Communication skills in written, graphical, quantitative and verbal forms are key qualities of the professional ergonomist.

The successful ergonomist has a responsibility to become certified. This protects the individual, the profession and the customer. After certification, practitioners must both practice and read, as well as take advantage of formal training in areas where they are lacking and/or areas in which they are interested. One such area could be history or archeology - this would give the ergonomist a clear insight into the anthropological perspective of human interaction with technology. But such pursuits are not for all. An alternative may be computer literacy. Computers are both the tools of ergonomics and the objects of ergonomists' attention. There is an infinity of broadening opportunity.

Ergonomists do not grow old, they grow short sighted, weaker, forgetful and cantankerous. They search out the tails of the various capability distributions and find them challenging. They then grow humble and wiser. Unthinking or unaware people will always create unergonomic situations for others, so there will always be job security. Alphonse Chapanis, PhD, CHFP, the first BCPE certificant, found the hospital to be an ergonomic nightmare. Other ergonomists amongst the BCPE directors and its certificant network are working diligently, productively, and competently to "humanize technology." The life cycle expands, and ergonomists must adapt for the betterment of life throughout the world and into space.

Directors of the BCPE Board in transition at the 1998 Annual Business Meeting in Chicago, Oct. 9th are from left to right: Dieter Jahns, MS, CPE, Executive Director; Andy Imada, PhD, CPE; Carol Stuart-Buttle, MS, CPE; Bob Smillie, PhD, CPE; Valerie Rice, PhD, CPE; Anna Wichanski, PhD, CPE; Brian Peacock, PhD, CPE; Ian Noy, PhD, CPE; H. Harvey Cohen, PhD, CPE; David Alexander, MS, CPE; and Hal Hendrick, PhD, CPE.

BCPE ACTIVITIES

It's been a busy, but productive, year for the BCPE. Much of the BCPE's Board of Directors and headquarters staff time and energy were devoted to the continued development and implementation of the new Certified Ergonomics Associate (CEA) certification (see related article). Finalization of CEA certification, however, wasn't the only issue addressed by the directors this past year. Highlights of some of the issues discussed at the Midyear and Annual Business Meetings include:

1) Continuing education as it relates to recertification. A CEU committee was established at the midyear meeting for further exploration on the why and how of recertification. A proposal for recertification was presented at the annual meeting and is presently undergoing further refinement.

2) Election of new directors. K. Ron Laughery Jr., PhD, CPE was elected to fulfill the term left by the resignation of Doug Harris, PhD, CPE while Carol Stuart-Buttle, MS, CPE was re-elected to serve a second, consecutive, three-year term. Andrew Imada, PhD, CPE and Anna Wichansky, PhD, CPE were elected to fill the positions of outgoing directors Hal Hendrick, PhD, CPE and H. Harvey Cohen, PhD, CPE. Carol, Andy and Anna will serve from 1998 to 2001.

3) Election of officers. By acclamation, the current slate of officers was elected for the 1998-1999 year. They are: President-Col. Valerie Rice, CPE; Vice President-Brian Peacock, CPE; Treasurer-Dave Alexander, CPE; and Secretary-Robert Smillie, CPE.

4) Marketing strategic planning. An outline for a potential strategic marketing plan will be presented at the 1999 midyear meeting. Parts of the strategic plan involves reaching out to get new certificants and the retention of current certificants.

5) Various administrative motions, including corporate restructuring, were addressed.

The BCPE directors will meet again in April 1999 to review and address these and other issues at hand. If you have any concerns, comments and/or suggestions for how the BCPE should address growth or service strategies, we would appreciate hearing from you.

BCPE LAUNCHES A NEW LEVEL OF CERTIFICATION: THE CERTIFIED ERGONOMICS ASSOCIATE (CEA)

After two years of development, spearheaded by BCPE past-president Jerry R. Duncan, PhD, CPE and continuously moved forward by the BCPE directors under the management of current BCPE President Valerie J. Rice PhD, CPE, the BCPE launched an important new technician level of certification. The need for this certification was identified from market surveys of employers, and from ergonomics practitioner job and task analyses. This certification provides an assessment process enabling individuals to demonstrate entry-level practitioner knowledge, experience and skills. The Certified Ergonomics Associate (CEA), the BCPE designation for this level of ergonomics practice, uses commonly accepted tools and methods (those extensively used, widely reported in the literature, or having established protocols) to analyze and support human performance requirements in operational systems. The CEA credential recognizes a person for achieving the following levels of knowledge, skills, and experience in ergonomics practice: (1) a Bachelor's degree from a recognized university, (2) at least 200 hours of ergonomics training, (3) at least two full years practicing ergonomics, and (4) obtaining a satisfactory score on the BCPE four-hour, two-part, multiple-choice examination on ergonomics foundations and ergonomics practice methods. The CEA certification will serve, among others, people with a Bachelor's degree in disciplines such as engineering, health care/rehabilitation, industrial hygiene, and psychology.

The CEA designation should not be confused with the "professional-in-training" category which puts ergonomists on the path to achieving CPE/CHFP certification. Implemented January 1, 1996, the AEP (Associate Ergonomics Professional) or AHFP (Associate Human Factors Professional) designation is awarded to an individual who has recently graduated from a Master's degree program accredited by an International Ergonomics Association federated society, or, if graduated from a non-accredited program, after receiving a passing score on the BCPE AEP/AHFP written two-hour examination. An AEP or AHFP is considered an "ergonomist-in-training" and is expected to apply for the designation of CPE/CHFP after achieving four years of ergonomics experience.

The CEA, on the other hand, can function at this level of ergonomics throughout his/her career. In this regard a comparison to other career fields may be helpful:

CEA	CPE
nurse	medical doctor
paralegal	lawyer
technician	engineer
bookkeeper	accountant
VFR-pilot	IFR-pilot

All these people are expected to perform "professionally" in their occupations, but those on the right side will have greater responsibility based on more education/training and deeper, broader work domains. Thus, the "scope of practice" of CEAs will most likely differ from that of AEPs/CPEs as outlined in Tables 1 and 2 below. Finally, Table 3 differentiates between the CPE and CEA on the basis of the Ergonomist Formation Model (EFM) as applied to differences in education/training. While all the categories and subtopics described are required of CPE candidates within the contact hours distribution shown, the CEA contact hours are fewer, and requirements are narrower in topics covered.

Table 1. Comparative chart of the scope of practice of a CEA and CPE

CEA	CPE
• Conducts basic workstations analyses	• In addition to conventional problems, addresses more complex and non-conventional problems.
• Applies widely-established techniques to address conventional problems.	• Develops and applies advanced methodologies, mathematical models and/or simulations.
• Works within the "intervention model", i.e., ergonomics-related problems identified at an existing workstation.	• Works within the broader "system design model" in which intervention may be one particular strategy among others. • Determines design criteria and specifications to new design and extensive redesign.

Table 2. Illustrations of the scope of practice of a CEA

ANALYSIS AND ASSESSMENT Examples of scope of practice.	In addition to performing CEA functions, the CPE is competent to do the following:
CEA	**CPE**
SYSTEM • Conducts basic analysis of a facility to identify problem areas using widely recognized methods such as: – reviewing the workers compensation records to identify the three jobs with the highest incidents of musculoskeletal disorders in a plant. – conducting a walkthrough survey using a checklist. • Recognizes musculoskeletal and performance problems related to organizational and management factors such as:	• Conducts basic to complex analyses (multiple facilities, national and international, diverse products, unconventional organizational structures) using existing to novel methods such as: – developing the survey and analysis method to identify multiple factors to prioritize ergonomics-related problems. – developing a unique survey which compares production bottlenecks and turnover, with injuries to prioritize ergonomic projects within a facility

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Table 2. Illustrations of the scope of practice of a CEA (continued)

CEA	CPE
– increased injuries related to downsizing, change of supervision, department restructuring and changes that incorporate new policies.	• Analyzes the organizational and management structure and processes to identify the root causes of injury and performance decrements. • Analyzes work system structure and processes to determine appropriateness in light of key sociotechnical systems, such as: – reviewing organizational structure to develop and implement rule-based procedures to spread decision making. – altering organizational culture to achieve quality management implementation.
TASK • Conducts basic task analyses using tools such as checklists, questionnaires, videotaping and force measurement. – investigating 50 person office workplace using standard VDT checklist • Uses commonly accepted tools and techniques[1] for analysis. – assessing manual transfer of chemical bags into a mixing bin using a standard lifting equation. • Recognizes basic mismatches between the job requirements and human capabilities including physical, cognitive, psychosocial and environmental. – identifying worker injuries that result from workload and deadline pressures rather than from workstation layout. – recognizing that a quality problem results from excessive noise levels. • Identifies obvious sources of error such as violations of occupational stereotypes, inconsistent displays, controls, control-display arrangements and poor coding design. • Bases analysis decision on widely recognized design criteria and ergonomics principles. • Uses simple statistical techniques such as descriptive statistics and performs simple statistical analyses such as t-tests and correlations. • Recognizes when a sophisticated level of analysis is required	• Develops and applies advanced analytical methods, mathematical models and simulation. – using a simulation model to review stairs in new stadium design. – using a CAD model to determine adequacy of maintenance accesses. • Designs and conducts analytical studies. – recognizing that multiple workplace changes within a manufacturing cell warrant pilot studies and mock-ups to verify changes – determining a safe workload based on workload analysis by body part, force requirements, pace and work duration. • Develops and applies theoretical constructs. – developing a diagnostic tool for incorporating a knowledge-based system for scientists and rule-based system for technicians. • Conducts error analysis. – reviewing five years of operational data to determine human error likelihood for a refinery. • Interprets study results to determine design requirements. – reviewing literature to specify design for a new road grader utilizing either an integrated control stalk or separate controls. • Uses advanced statistical techniques such as multi-variate analysis and regression analysis. – using multi-variate analysis to predict service call rates based on interaction of overtime requirements and shift assignment. • Recognizes when the analysis requires a level of expertise in a specialty area at a level that exceeds ones own.
INTERVENTION (DESIGN/RE-DESIGN)	In addition to performing CEA functions the CPE is competent to do the following:
• Applies ergonomics principles at the workstation level. – modifying a packaging station by replacing a lift motion with a slide motion resulting in fewer risk factors and enhanced productivity. – rearranging displays on a control panel based on ergonomics principles of importance and frequency of use. • Makes basic recommendations for improvement, or existing systems, encompassing engineering, administrative and work practice modifications, for example: – rearranging a workplace fixture to eliminate an awkward posture.	• Applies ergonomics principles at the work system level: – specifying methods and tools for different types of terrain for tree harvesting to optimize efficiency and safety. – specifying resources for enhanced situation awareness in transportation systems. • Makes recommendations for the improvement of existing sophisticated systems: – replacing a small motor assembly line with a manufacturing cell to control labor costs, enrich jobs and provide just-in-time output.

[1]Commonly accepted tools and techniques include those which have extensive use, are widely reported in the literature, have established protocols, and which are broadly accepted by practicing CPEs.

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Table 2. Illustrations of the scope of practice of a CEA (continued)

CEA	CPE
– rearranging a sequence of work tasks to reduce cycle times. – using anthropometric data to determine the height of an overhead control valve for 5th percentile female workers. – recommending off-the-shelf hardware such as lift tables, hoists, conveyors. – recommending job rotation on an assembly line to control overuse injuries.	– restructuring departmental jobs by revising human roles and authority to better distribute work loads and enhance output. – redesigning a shift schedule to reduce vigilance decrement of radar surveillance operators. – adding test functions to electronic sub-assembly in order to provide knowledge of results, thus enhancing motivation and reducing rework. – designing cognitive aids, such as a procedural storyboard for packing medical instruments, or air traffic management decision support systems.
• Trains employees in ergonomics principles and task techniques. – training office workers on how to adjust workplaces. – training employees to include ergonomics in Job Safety Analyses.	• Develops training programs and materials. – training people in ergonomics analysis, interventions, and evaluation, such as training ergonomics teams or design engineers. – using the training system development process to determine training requirements for computer maintenance personnel. – specifying use of whole versus part task simulators for training pilots. • Tailoring conventional intervention methods for new or unique opportunities – using aviation crew resource management procedures to optimize decision making in a chemical control room. • Designing and developing new systems or systems requiring major revision by determining design criteria and applying those specifications to the design. – designing a new software package. – designing a nuclear power plant control room. – revising the manufacturing line to shift from conventional CRT monitors to flat panel displays.
• Recognizes when the scale or complexity of intervention requires a CPE.	• Recognizes when the intervention requires a level of expertise in a specialty area at a level that exceeds one's own.
EVALUATION Recommends conventional, widely accepted interventions:	In addition to performing CEA functions the CPE is competent to do the following:
• Uses simple structured evaluation tools and methods to measure effectiveness of ergonomic interventions. – administering before and after discomfort surveys to ensure a raised packing station height reduced back discomfort. – administering work environment survey to evaluate employee satisfaction with the new work station. – conducting a survey to elicit employee preferences for laboratory stools. – using structured interviews to gather feedback on the employee acceptance of a semi-automated ticketing system at an apparel assembly workstation.	• Designs and develops evaluation tools and methods to measure effectiveness of ergonomic interventions. – evaluating effects of introducing robotic packing of television sets, by developing a program which includes determining evaluation requirements and designing or selecting evaluation tools. – specifies human performance measures suitable for measuring vehicle guidance with cell-phone task sharing.
• Uses simple statistical evaluation such as means and standard deviations. – calculating average area roofed per shift by construction workers and standard deviation for manual nailing versus using nailing guns.	• Conducts sophisticated evaluations including multivariate statistical analysis. – evaluating the interaction effects of increasing lighting and reducing noise on error rate of pill dispensing in pharmacies. – evaluating effectiveness of 12 hour versus 8 hour work shifts in a rotating shift chemical plant.
• Performs cost justification of simple and relatively inexpensive projects. – as part of cost justification, calculating changes in annual lost time accidents and injuries following ergonomic redesign of shoe assembly work stations and determining savings in worker's compensation costs.	• Performs cost benefit analyses, especially of complex and expensive projects. – justifying the cost of modifying a harvesting machine cab to improve visibility in terms of savings from increased harvesting rate and reduced equipment damage from accidents.
• Recognizes when a sophisticated level of evaluation is required.	• Recognizes when the evaluation requires a level of expertise in a specialty area at a level that exceeds one's own.

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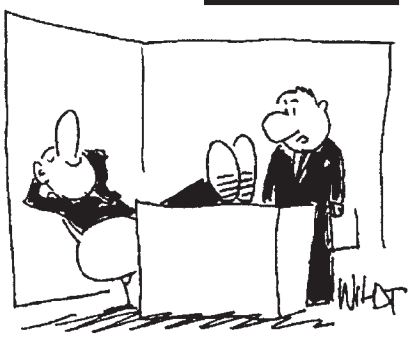
Table 3. The ergonomist formation model as applied to education/training

	EDUCATION/TRAINING*	
CATEGORY & SUBTOPICS	**CPE (MS/PhD)**	**CEA (BS)**
A. Ergonomic Principles	20 hours	15 hours
1. Ergonomics Approach		**Required**
2. Systems Theory		Elective
B. Human Characteristics	80 hours	50 hours
1. Anatomy, Demographics and Physiology		**Required**
2. Human Psychology		**Required**
3. Social and Organizational Aspects		Elective
4. Physical Environments		**Required**
C. Work Analysis and Measurement	100 hours	65 hours
1. Statistics and Experimental Design		Elective
2. Computation and Information Technology		Elective
3. Instrumentation		Elective
4. Methods of Measurement and Investigation		**Required**
5. Work Analysis		**Required**
D. People and Technology	100 hours	65 hours
1. Technology		**Required**
2. Human Reliability		Elective
3. Health, Safety and Well-Being		Elective
4. Training and Instruction		**Required**
5. Occupational Hygiene		Elective
6. Workplace Design***		Elective
7. Information Design***		Elective
8. Work Organization Design***		Elective
E. Applications (projects pursued by the individual during education/training)	6 weeks	Part of OJT
F. Professional Issues (ethics, practice standards, marketing, business practice, legal liabilities)	20 hours	5 hours
G. On-the-Job Experience	4 years	2 years

* All hours specified are "clock hours" of contact and/or studies
*** CPEs must be competent in at least one design domain

Just for laughs



"Let me guess. You've found the ergonomically correct position for intense concentration."

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BCPE 1999 CALENDAR OF EVENTS

March 8, 1999	BCPE Exam-Houston TX at IIE's 2nd Annual Applied Ergonomics Conference Postmark deadline for application: January 8, 1999
April 12, 1999	BCPE Exam-Various sites throughout the US and Canada Postmark deadline for application: February 12, 1999
April 17, 1999	BCPE CEA Exam-Indianapolis, IN at the 1999 AOTA Annual Conference & Exposition Postmark deadline for application: February 17, 1999
April 23-25, 1999	BCPE MidYear Business Meeting-Denver CO
September 26, 1999	BCPE Exam-Houston TX preceding HFES 43rd Annual Meeting Postmark deadline for application: July 26, 1999
October 1-2, 1999	BCPE 10th Annual Meeting-Houston TX

IN MEMORIAM

It is with condolences to their families that we report the passing of the following colleagues:

Julien M. Christensen PhD CPE on 7/10/98

Stephen W. Meagher MD CHFP on 5/31/97

CERTIFICANT ROSTER WINTER 1998

Forty candidates sat for the BCPE spring and fall 1998 certification exams. Twenty-eight ergonomists successfully passed the exam to earn the CPE/CHFP credential. Three candidates were successful in earning the AEP/AHFP credential.

Those passing the 1998 exams were:

Craig M. Arndt PhD CHFP
Marie L. Bellegarde MA CPE
John W. Boyle MS Eng CPE
Lisa A. Buescher MS CPE
Christopher S. Calhoun MS CPE
Ramon J. Ceron MS CPE
Shea Dismukes MS CPE
Chad A. Doyle BSc AEP
Michael B. Fleming BS CPE
Patrick L. Hauge MSME CPE
Arno C. Huang MS CPE
Bruce P. Hunn MS CPE
Harold Josephs MSME CPE
Carter J. Kerk PhD CPE
George J. Khoury II PhD CPE
Ellen A. Lackey MPH CPE
Barbara L. Lee MA CPE
Steven K. MacNeil BSc AEP
Ronald A. Maitland MSIE CPE
John S. Pentikis MSIE CPE
Kevin A.Quaid MS CPE
George M. Samaras DSc PhD CPE
Steven J. Schneider MEng CPE
Eric Swensen PhD CPE
Subhash C. Vaidya MS CPE
Holly S. Wick MS AEP

Steven M. Krile BSHFE CPE, William A. Mecham MS CPE, William L. Mergen Jr. MA CPE, Lisa A. Orr MSIE CPE, and Guido Romagnoli MSc CPE transitioned from AEP to CPE as a result of passing the exam and fulfillment of the four year work experience requirement.

The first new Certified Ergonomics Associates are: Ann M. Dale MS CEA, William Doggette BS CEA, Susan K Finkam MS CEA, John W. Hill Jr. MA CEA, Ashwanikumar L. Muppasani MS CEA, Terri L. Ogle-Shine MS CEA, J. Thomas Pierce PhD CEA and Marcus T. Whitehead MS CEA.

Proctors for the BCPE exams deserve a special "thank you"; these CPEs provide a proper environment and care for exam candidates while maintaining test security and coordination with the BCPE headquarters staff during a full day in their busy work schedules. Procotors for 1998: David Alexander MS CPE, Charles K. Anderson PhD CPE, Peter Budnick PhD CPE, Joseph Davis PhD CPE, Jerry Duncan PhD CPE, Ila Jean Elson PhD CPE, Dieter W. Jahns MS CPE, Tom B. Leamon PhD CPE, Mary Lopez PhD CPE, William S. Marras PhD CPE, Ian Noy PhD CPE, Brian Peacock, PhD CPE, Valerie Rice PhD CPE, Robert Smillie PhD CPE, Jack W. Stuster PhD CPE, Sheryl Ulin PhD CPE, and Ms. Leslie Wright of HFAC/ACE.

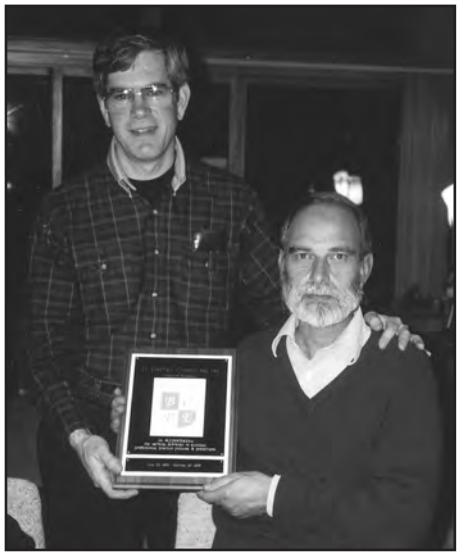
Jefferson Koonce PhD CPE and Dennis Kolar PhD CHFP were certified in the special category.

Qualifying for Associate certification by waiver of part one of the exam this year were:

Steven G. Chervak MS AEP
Martha P. Craig MS AEP
Aaron J. Gannon MA AEP
Jennifer J. Hohne MA AEP
Jiun-Yin Jian MS AHFP
Brian D. Lowe PhD AEP
Albert W. Moore II MS AEP
Jerry P. Purswell PhD AEP
Shane D. Sidebottom MS AEP
John J. Winters MS AHFP

These certificants bring current totals of BCPE certificants to 747 CPE/CHFPs and 65 AEP/AHFPs and eight CEAs.

James Hawley PhD, Joyce Madden MA, Daniel McCrobie PhD, and John Schlyer MS are no longer active certificants.



Past BCPE president (1995-96) and director (1990-96) Jerry Duncan, PhD, CPE (left) awarded the service-appreciation plaque to H. Harvey Cohen, PhD, CPE in 1996. Now Harvey has completed his term as director (1990-'98) and treasurer (1990-94).

Former BCPE director (1990-96) Steve Casey, PhD, CPE (right) awards the service-appreciation plaque to Doug Harris, PhD, CPE. As director (1994-98), Doug was instrumental in revamping the website and in advancing the certification criteria, publications, and examination.

KEEPING BCPE INFORMED

BCPE certificants have an obligation to keep BCPE informed of their current address. BCPE cannot know when someone moves or changes employment. Reporting address changes minimizes staff time and costs. For certificants with access to the internet, the BCPE has facilitated this process by developing an on-line version of our *Update of Certificant Information* form available at http://www.bcpe.org/update.htm Address changes can also be made by phone, fax, e-mail or by returning the *Update of Certificant Information* form inserted in this issue of the newsletter.

CORRECTION

An error was made in the last newsletter regarding Tamara Smolar's degree. It should have read Tamara J. Smolar MS AEP. We apologize for the error.

THE PROFESSIONAL ERGONOMIST
The Newsletter of the BCPE

Winter 1998/99
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